

What Is Claimed Is:

1 1. A method for generating a wobble signal of an
2 optical-electronic system, comprising:
3 generating a reference signal in responsive to a first
4 input signal and a second input signal that are
5 derived from a plurality of light signals reflected
6 from an optical storage medium, wherein the plurality
7 of reflected light signals are used for generating
8 the reference signal even when the
9 optical-electronic system is recording data onto the
10 optical storage medium; and
11 processing the reference signal to generate the wobble
12 signal.

1 2. The method for generating a wobble signal as claimed
2 in claim 1, wherein the plurality of light signals comprises a
3 first light signal, a second light signal, a third light signal,
4 and a fourth light signal that are all used for generating the
5 reference signal continuously.

1 3. The method for generating a wobble signal as claimed
2 in claim 1, further comprising a step of attenuating the first
3 input signal and the second input signal before the first input
4 signal and the second input signal being used to generate the
5 reference signal.

1 4. The method for generating a wobble signal as claimed
2 in claim 3, further comprising a step of amplifying the reference
3 signal before being the reference signal processed for generated
4 the wobble signal.

1 5. The method for generating a wobble signal as claimed
2 in claim 1, wherein the reference signal is substantially a
3 multiplication of a factor and a difference between the first
4 input signal and the second input signal.

1 6. The method for generating a wobble signal as claimed
2 in claim 5, wherein the factor is a substantial ratio of
3 resistances that are used for attenuating the first input signal
4 and the second input signal.

1 7. A method for generating a wobble signal of an
2 optical-electronic system, comprising:

3 generating a reference signal by attenuating a first input
4 signal and a second input signal that are derived from
5 a plurality of continuous light signals reflected
6 from an optical storage medium; and

7 processing the reference signal to generate the wobble
8 signal, wherein the plurality of continuously
9 reflected light signals is used to derive the first
10 input signal and the second input signal for
11 generating the reference signal even when the
12 optical-electronic system is recording data onto the
13 optical storage medium.

1 8. The method for generating a wobble signal as claimed
2 in claim 7, wherein the plurality of continuous light signals
3 comprises a first light signal, a second light signal, a third
4 light signal, and a fourth light signal that are all used to
5 derived the first input signal and the second input signal for
6 generating the reference signal continuously.

1 9. The method for generating a wobble signal as claimed
2 in claim 7, further comprising a step of attenuating the first
3 input signal and the second input signal before the first input
4 signal and the second input signal being used to generate the
5 reference signal.

1 10. The method for generating a wobble signal as claimed
2 in claim 9, further comprising a step of amplifying the reference
3 signal before the first input signal and the second input signal
4 being processed for generated the wobble signal.

1 11. The method for generating a wobble signal as claimed
2 in claim 7, wherein the reference signal is substantial a
3 multiplication of a factor and a difference between the first
4 input signal and the second input signal.

1 12. The method for generating a wobble signal as claimed
2 in claim 11, wherein the factor is a substantial ratio of
3 resistances that are used for attenuating the first input signal
4 and the second input signal.

1 13. A wobble signal generating apparatus of an
2 optical-electronic system, comprising:

3 a first operation unit for generating a reference signal
4 in responsive to a first input signal and a second
5 input signal that are derived from a plurality of
6 light signals reflected from an optical storage
7 medium, wherein the plurality of reflected light
8 signals are used for generating the reference signal
9 even when the optical-electronic system is recording
10 data onto the optical storage medium; and

11 a processing unit for processing the reference signal to
12 generate the wobble signal.

1 14. The wobble signal generating apparatus as claimed in
2 claim 13, wherein the plurality of light signals comprises a
3 first light signal, a second light signal, a third light signal,
4 and a fourth light signal that are all used for generating the
5 reference signal continuously.

1 15. The wobble signal generating apparatus as claimed in
2 claim 14, wherein the first input signal is substantial a
3 summation of the first light signal and the fourth light signal
4 and the second input signal is substantial a summation of the
5 second light signal and the third light signal.

1 16. The wobble signal generating apparatus as claimed in
2 claim 13, wherein the reference signal is substantial a
3 multiplication of a factor and a difference between the first
4 input signal and the second input signal.

1 17. The wobble signal generating apparatus as claimed in
2 claim 16, wherein the factor is a ratio of resistances that are
3 used for attenuating the first input signal and the second input
4 signal.

1 18. The wobble signal generating apparatus as claimed in
2 claim 13, wherein the first operation unit comprises a
3 non-inverting terminal, an inverting terminal and an output
4 terminal, the non-inverting terminal receives the first input
5 signal and the inverting terminal receives the second input
6 signal for generating and delivering the reference signal via
7 the output terminal.

1 19. The wobble signal generating apparatus as claimed in
2 claim 18, further comprising:

3 a first attenuator coupled with the first operation unit
4 for attenuating the first input signal; and

5 a second attenuator coupled with the first operation unit
6 for attenuating the second input signal, wherein the
7 first input signal and the second input signal are
8 attenuated before being used for generating the
9 reference signal.

1 20. The wobble signal generating apparatus as claimed in
2 claim 19, further comprising an extra attenuator coupled between
3 the output terminal and one of the non-inverting terminal and
4 the inverting terminal of the first operation unit, wherein a
5 factor substantially equal to a ratio derived from
6 characteristic values of the extra attenuator, the first
7 attenuator and the second attenuator.

1 21. The wobble signal generating apparatus as claimed in
2 claim 20, wherein the extra attenuator, the first attenuator and
3 the second attenuator are all resistors.

1 22. The wobble signal generating apparatus as claimed in
2 claim 13, wherein the first operation unit comprises an
3 inverting terminal, a non-inverting terminal and an operational
4 output terminal, the inverting terminal receives the first input
5 signal and the non-inverting terminal receives the second input
6 signal for generating and delivering the reference signal via
7 the output terminal.

1 23. The wobble signal generating apparatus as claimed in
2 claim 22, further comprising:

3 a second operation unit couples to the first operation
4 unit, comprising a grounding non-inverting terminal,
5 a non-inverting terminal, and an output terminal,
6 wherein the non-inverting terminal receives some of
7 the plurality of reflected light signals for
8 generating and delivering the first input signal via
9 the output terminal; and

10 a third operation unit couples to the first operation unit,
11 comprising a grounding non-inverting terminal, a
12 non-inverting terminal, and an output terminal,
13 wherein the non-inverting terminal receives others
14 of the plurality of reflected light signals for
15 generating and delivering the second input signal via
16 the output terminal.

1 24. The wobble signal generating apparatus as claimed in
2 claim 23, further comprising:

3 a first attenuator coupled with the first operation unit
4 for attenuating the first input signal;

5 a second attenuator coupled with the first operation unit
6 for attenuating the second input signal;

7 a third attenuator coupled with the second operation unit
8 for attenuating the plurality of reflected light
9 signals; and

10 a fourth attenuator coupled with the third operation unit
11 for attenuating the plurality of reflected light
12 signals, wherein the first input signal and the

13 second input signal are attenuated before being used
14 for generating the reference signal, and the
15 plurality of the reflected light signals are
16 attenuated before being used for generating the first
17 and the second input signal.

1 25. The wobble signal generating apparatus as claimed in
2 claim 24, further comprising:

3 a first extra attenuator coupled between the output
4 terminal and one of the non-inverting terminal and
5 the inverting terminal of the first operation unit;
6 a second extra attenuator coupled between the output
7 terminal and the non-inverting terminal of the second
8 operation unit; and
9 a third extra attenuator coupled between the output
10 terminal and the non-inverting terminal of the third
11 operation unit, wherein a factor substantially equal
12 to a ratio derived from characteristic values of the
13 first extra attenuator, the second extra attenuator,
14 the third extra attenuator, the first attenuator, the
15 second attenuator, the third attenuator, and the
16 fourth attenuator.

1 26. The wobble signal generating apparatus as claimed in
2 claim 25, wherein the first extra attenuator, the second extra
3 attenuator, the third extra attenuator, the first attenuator,
4 the second attenuator, the third attenuator, and the fourth
5 attenuator are all resistors.

1 27. The wobble signal generating apparatus as claimed in
2 claim 23, further comprising an amplifier coupled between the

Client' s ref.: VIT03-0019/04-01-19

File:0608-9625USf_Correct Version+drawings.doc/Robert/Steve

3 first operation unit and the processing unit for amplifying the
4 reference signal before being processed for generated the wobble
5 signal.